

TABLE 11.—STATEMENT OF TRANSACTIONS IN PUBLIC-DEBT AND IN FEDERALLY-SPONSORED AGENCY SECURITIES
FOR THE DISABILITY INSURANCE TRUST FUND DURING THE FISCAL YEAR 1968

[All amounts represent par values]

	Acquisitions	Dispositions
Public-debt obligations:		
Public issues:		
Treasury notes:		
5½-percent, 1975.....	\$10,000,000	0
6-percent, 1975.....	3,750,000	0
Treasury bonds:		
3¼-percent, 1968.....	0	\$5,000,000
3¾-percent, 1968.....	0	8,750,000
Total public issues.....	13,750,000	13,750,000
Obligations sold only to this fund (special issues):		
Certificates of indebtedness:		
5-percent, 1968.....	239,185,000	239,185,000
5½-percent, 1968.....	388,736,000	388,736,000
5¾-percent, 1968.....	197,724,000	197,724,000
5½-percent, 1968.....	630,414,000	630,414,000
5¼-percent, 1968.....	1,539,062,000	1,539,062,000
Notes:		
4¾-percent, 1971.....	0	67,757,000
5½-percent, 1975.....	583,612,000	0
Total obligations sold only to this fund (special issues).....	3,578,733,000	3,062,878,000
Total public-debt obligations.....	3,592,483,000	3,076,628,000
Federally-sponsored agency obligations:		
Agency securities:		
Federal National Mortgage Association debentures:		
5½-percent, 1970.....	20,000,000	0
Federal home loan bank bonds:		
5½-percent, 1967.....	0	18,000,000
6-percent, 1967.....	0	28,000,000
6¼-percent, 1967.....	0	30,000,000
Federal intermediate credit bank debentures:		
6.20-percent, 1967.....	0	10,000,000
Participation certificates:		
Federal assets financing trust—Federal National Mortgage Association:		
6.30-percent, 1971.....	15,000,000	0
6.35-percent, 1970.....	50,000,000	0
Total federally-sponsored agency obligations.....	85,000,000	84,000,000
Total transactions.....	3,677,483,000	3,160,628,000

EXPECTED OPERATIONS AND STATUS OF THE TRUST FUNDS DURING THE PERIOD JULY 1, 1968 TO DECEMBER 31, 1973

In the following statement of the expected operations and status of the trust funds during the period July 1, 1968 to December 31, 1973, it is assumed that present statutory provisions affecting the old-age, survivors, and disability insurance program remain unchanged throughout the period. The income and disbursements of the program, however, are affected by general economic conditions as well as by legislative provisions. Because it is difficult to foresee economic developments, the assumptions and the resulting estimates here presented are subject to some uncertainty. This statement of the expected operations of the trust funds should therefore be read with full recognition of the difficulties of estimating future trust fund income and disbursements under changing economic conditions.

Table 12 presents data on the actual operations of the old-age and survivors insurance trust fund for selected fiscal years during the period 1937-68¹ and also estimates of the expected operations of the trust fund in fiscal years 1969-73. The estimates are based on the assumption that economic activity will expand throughout the period, with employment and earnings increasing each year through 1973. Under this assumption, the estimated number of persons with taxable earnings under the old-age, survivors, and disability insurance program is expected to increase from 90.4 million during calendar year 1968 to 99.9 million during calendar year 1973; their taxable earnings are estimated to increase from \$375 billion in 1968 to \$464 billion in 1973. The increase in estimated total taxable earnings and income from contributions in fiscal years 1969-73 reflects the assumed upward trend in the levels of employment and earnings, as well as the effects of the increase in the maximum amount of earnings taxable and creditable under the program, effective January 1, 1968, and the scheduled changes in contribution rates. Benefit disbursements increase primarily because of the recent amendments and partly because of the long-range upward trend in the numbers of beneficiaries and in the average monthly amounts of benefits under the program. Aggregate income of the old-age and survivors insurance trust fund is expected to exceed aggregate outgo in the 5-year period covering fiscal years 1969-73. During this period, there is an estimated net increase in the old-age and survivors insurance trust fund of \$38.7 billion.

Estimates consistent with those shown on a fiscal-year basis in table 12 are presented in table 13 to show the progress of the old-age and survivors insurance trust fund on a calendar-year basis. The trust fund is expected to increase in each of the calendar years 1968-73, reaching \$70 billion on December 31, 1973.

Table 14 shows the annual amount of benefit payments distributed by classification of beneficiaries for selected calendar years during the period 1940-73.

¹ Data relating to the operations of the old-age and survivors insurance trust fund for years not shown in tables 12-15 are contained in the 1967 Annual Report of the Board of Trustees.

TABLE 12.—OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE TRUST FUND, SELECTED FISCAL YEARS 1937-73

[In millions]

Fiscal year	Transactions during period								Net increase in fund	Fund at end of period
	Income				Disbursements					
	Contributions, less refunds	Reimbursements from general fund of Treasury for costs of—		Interest on investments ²	Benefit payments ³	Administrative expenses ⁴	Transfers to railroad retirement account			
		Noncontributory credits for military service	Payments to noninsured persons aged 72 and over ¹							
Past experience:										
1937-68.....	\$203,808	\$171		\$10,996	\$181,348	\$4,062	\$4,032	\$25,533	\$25,533	
1940.....	550			42	16	12		564	1,745	
1945.....	1,310			124	240	27		1,167	6,613	
1950.....	2,106	4		257	727	57		1,583	12,893	
1955.....	5,087			438	4,333	103	-10	1,098	21,141	
1960.....	9,843			517	10,270	202	600	-713	20,829	
1961.....	11,293			531	11,185	236	332	72	20,900	
1962.....	11,455			541	12,658	251	361	-1,274	19,626	
1963.....	13,328			515	13,845	263	423	-687	18,939	
1964.....	15,503			542	14,579	303	403	760	19,699	
1965.....	15,857			586	15,226	300	436	482	20,180	
1966.....	17,866			595	18,071	254	444	-308	19,872	
1967.....	22,567	78		726	18,886	334	508	3,643	23,515	
1968.....	22,662	78		899	20,737	447	438	2,018	25,533	
Estimated future experience:										
1969.....	26,475	156	\$226	985	23,712	461	468	3,201	28,734	
1970.....	29,426	78	364	1,217	24,637	496	505	5,447	34,181	
1971.....	32,175	90	354	1,545	25,632	524	531	7,477	41,658	
1972.....	35,265	101	321	2,001	26,647	552	521	9,968	51,626	
1973.....	38,351	102	283	2,584	27,658	565	507	12,590	64,216	

¹ Under sec. 228 of the Social Security Act, the trust fund is reimbursed from the general fund of the Treasury for the cost of payments to beneficiaries with less than 3 quarters of coverage.

² Includes net profits on marketable investments and, for 1958-69, adjustment for interest on administrative-expense transfers between the old-age and survivors insurance trust fund and the other social security trust funds (see footnote 4 below).

³ Beginning in 1967, includes relatively small amounts of payments for vocational rehabilitation services furnished to disabled persons receiving benefits from the trust fund because of their disability.

⁴ Total excludes administrative expenses for the period ending Dec. 31, 1939; for that period, appropriations to the old-age and survivors insurance trust fund (designated as the old-age reserve account prior to Jan. 1, 1940) were approximately equivalent to tax contributions collected by the Treasury Department less administrative expenses. Beginning in 1954, includes costs of construction of office space for the Social Security Administration. For years 1957-65, expenses incurred by the Department of Health, Education, and Welfare under the disability insurance program were

initially charged to the old-age and survivors insurance trust fund; reimbursements, including interest, were then made from the disability insurance trust fund in the following fiscal year. For 1966, expenses incurred under the disability insurance program, the hospital insurance program, and the supplementary medical insurance program were initially charged to the old-age and survivors insurance trust fund; reimbursements, including interest, were made from the disability insurance trust fund and the hospital insurance trust fund in June 1966, and from the supplementary medical insurance trust fund in December 1966. Beginning in 1967, expenses incurred under each of the 4 programs are charged directly to the appropriate trust fund on a current (preliminary) basis, with a final adjustment made in the following fiscal year.

Note: In interpreting the estimates, reference should be made to the accompanying text which describes the underlying assumptions. Estimates were prepared in December 1968.

TABLE 13.—OPERATIONS OF THE OLD-AGE AND SURVIVORS INSURANCE TRUST FUND, SELECTED CALENDAR YEARS 1937-73

[In millions]

Calendar year	Transactions during period								Fund at end of period
	Income				Disbursements				
	Contributions, less refunds	Reimbursements from general fund of Treasury for costs of—		Interest on investments	Benefit payments	Administrative expenses	Transfers to railroad retirement account	Net increase in fund	
		Noncontributory credits for military service	Payments to noninsured persons aged 72 and over						
Past experience:									
1937-67	\$191,337	\$171		\$10,542	\$170,409	\$3,826	\$3,595	\$24,222	\$24,222
1940	325			43	35	26		306	2,031
1945	1,285			134	274	30		1,116	7,121
1950	2,667	4		257	961	61		1,905	13,721
1955	5,713			454	4,968	119	-7	1,087	21,663
1960	10,866			516	10,677	203	318	184	20,324
1961	11,285			548	11,862	239	332	-599	19,725
1962	12,059			526	13,356	256	361	-1,388	18,337
1963	14,541			521	14,217	281	423	143	18,480
1964	15,689			569	14,914	296	403	645	19,125
1965	16,017			593	16,737	328	436	-890	18,235
1966	20,580	78		644	18,267	256	444	2,335	20,570
1967	23,138	78		818	19,468	406	508	3,652	24,222
Estimated future experience:									
1968	23,715	156	\$226	939	22,664	466	438	1,468	25,690
1969	28,376	78	364	1,101	24,165	479	468	4,807	30,497
1970	29,982	90	354	1,381	25,126	510	505	5,666	36,163
1971	34,100	101	321	1,773	26,145	538	531	9,081	45,244
1972	35,789	102	283	2,293	27,161	558	521	10,227	55,471
1973	40,475	103	247	2,946	28,157	578	507	14,529	70,000

Note: In interpreting the above experience, reference should be made to the footnotes in table 12.

TABLE 14.—BENEFIT PAYMENTS FROM THE OLD-AGE AND SURVIVORS INSURANCE TRUST FUND, DISTRIBUTED BY CLASSIFICATION OF BENEFICIARIES, SELECTED CALENDAR YEARS 1940-73

[In millions]

Calendar year	Total benefit disbursements	Monthly benefits disbursed to old-age beneficiaries and their dependents			Disbursed to survivors of deceased insured workers				Disbursed to noninsured persons aged 72 and over ¹
		Total	Old-age beneficiaries	Dependents of old-age beneficiaries	Monthly benefits			Lump-sum payments	
					Total	Aged or disabled widows and widowers, and aged parents	Widowed mothers, dependent divorced wives, and dependent children		
Past experience: ²									
1940.....	\$35	\$17	\$15	\$2	\$6	(³)	\$6	\$12	-----
1945.....	274	148	126	22	100		79	26	-----
1950.....	961	651	557	95	277		185	33	-----
1955.....	4,968	3,748	3,253	495	1,108		412	695	113
1960.....	10,677	8,196	7,053	1,143	2,316	1,085	1,231	164	-----
1961.....	11,862	9,032	7,802	1,230	2,659	1,262	1,396	171	-----
1962.....	13,356	10,162	8,813	1,349	3,011	1,504	1,507	183	-----
1963.....	14,217	10,795	9,391	1,403	3,216	1,645	1,571	206	-----
1964.....	14,914	11,281	9,854	1,427	3,416	1,787	1,629	216	-----
1965.....	16,737	12,542	10,984	1,558	3,979	2,076	1,903	217	-----
1966.....	18,267	13,373	11,728	1,645	4,613	2,386	2,227	237	-----
1967.....	19,468	14,051	12,374	1,677	4,854	2,579	2,275	252	\$44
Estimated future experience:									
1968.....	22,663	16,225	14,293	1,932	5,835	3,150	2,685	274	329
1969.....	24,164	17,318	15,326	1,992	6,257	3,420	2,837	282	307
1970.....	25,124	18,050	16,036	2,014	6,519	3,622	2,897	277	278
1971.....	26,143	18,824	16,790	2,034	6,792	3,829	2,963	282	245
1972.....	27,159	19,605	17,551	2,054	7,054	4,032	3,022	288	212
1973.....	28,155	20,359	18,286	2,073	7,320	4,240	3,080	294	182

¹ Total benefit expenditures under sec. 228 of the Social Security Act; the trust fund is reimbursed from the general fund of the Treasury for the cost of payments to beneficiaries with less than 3 quarters of coverage.

² Partly estimated.

³ Less than \$500,000.

Benefit payments were 5.99 percent of taxable earnings for calendar year 1967 and are estimated to increase to 6.12 percent in 1968 and to 6.23 percent in 1972. The percentage will remain at about that level in 1973 as the effect of rising taxable earnings offsets the gradual long-term rise in the amount of benefit payments. Figures for selected calendar years during the period 1940-73 are shown in table 15.

TABLE 15.—OLD-AGE AND SURVIVORS INSURANCE BENEFIT PAYMENTS AS A PERCENTAGE OF TAXABLE EARNINGS,¹ SELECTED CALENDAR YEARS 1940-73

Calendar year	Benefit payments as a percentage of taxable earnings ²	Calendar year	Benefit payments as a percentage of taxable earnings ²
Past experience:		Estimated future experience:	
1940.....	0.11	1968.....	6.12
1945.....	.44	1969.....	6.18
1950.....	1.10	1970.....	6.18
1955.....	3.27	1971.....	6.21
1960.....	5.33	1972.....	6.23
1961.....	5.85	1973.....	6.22
1962.....	6.31		
1963.....	6.52		
1964.....	6.53		
1965.....	6.92		
1966.....	6.02		
1967.....	5.99		

¹ Percentage takes into account, for 1951 and later (1) lower contribution rate payable by the self-employed compared with combined employer-employee rate; (2) employee contributions subject to refund; and (3) for 1966 and later, that only the employee contribution is payable on tips taxable as wages.

² For 1965-67, percentages are preliminary and subject to revision when complete tabulation of taxable earnings is available. For 1966-73, percentages are based on sum of payments for benefits (excluding payments under sec. 228 of the Social Security Act to certain noninsured persons aged 72 and over with less than 3 quarters of coverage, costs of which are financed from the general fund of the Treasury) and for vocational rehabilitation services.

The growth in the number of beneficiaries in the past and the expected growth in the future are attributable in large measure to the rising number of workers who are eligible for and receiving old-age (primary) benefits. The growth in the number of eligible workers since 1940 has been uninterrupted. This growth results partly from the increase in the population at these ages and partly from two other factors—(1) in each passing year a larger proportion of the persons attaining age 65 has had fully insured status and (2) the amendments during the period 1950-67 liberalized the eligibility provisions and extended coverage to new categories of employment.

In addition, there has been a growth in the proportion of eligible workers who receive benefits. In the early years of the program, a considerable proportion of the workers who were eligible for old-age (primary) benefits remained in covered employment (or, if they had left covered employment, later returned to it) and therefore did not receive benefits. Since 1945, however, the proportion of eligible workers receiving retirement benefits has been increasing, except for temporary halts due to special circumstances resulting from the amendments of 1950 and 1954. In general, due to the increasing percentage of eligibles aged 72 or over, who receive benefits regardless of earnings, the upward trend in this proportion is expected to continue, although at a slower rate than in the past.

The expected operations and status of the disability insurance trust fund during the next 5 fiscal years are presented in table 16, together with the figures on actual experience in earlier years. Aggregate in-

come of the disability insurance trust fund is expected to exceed aggregate outgo in the 5-year period covering fiscal years 1969-73. During this period there is an estimated net increase in the trust fund of \$6.2 billion.

Estimates consistent with those shown on a fiscal-year basis in table 16 are presented in table 17 to show the progress of the disability insurance trust fund on a calendar-year basis. The trust fund is expected to increase in each of the calendar years 1968-73, reaching about \$9.4 billion on December 31, 1973.

The total amounts of disability benefit payments will continue to increase as the numbers of beneficiaries and the average monthly benefit amount increase. Disability benefit expenditures as a percentage of taxable payroll will also increase—from 0.61 percent of taxable earnings for calendar year 1967 to an estimated 0.63 percent of taxable earnings in 1968 and to 0.69 percent in 1972-73, as shown in table 18.

TABLE 16.—OPERATIONS OF THE DISABILITY INSURANCE TRUST FUND, FISCAL YEARS 1957-73

[In millions]

Fiscal year	Transactions during period							Net increase in fund	Fund at end of period
	Income			Disbursements					
	Contributions, less refunds	Reimbursements from general fund of Treasury for cost of noncontributory credits for military service	Interest on investments ¹	Benefit payments	Payments for vocational rehabilitation services	Administrative expenses ²	Transfers to railroad retirement account		
Past experience:									
1957-68.....	\$15,089	\$32	\$626	\$12,236	\$23	\$775	\$128	\$2,585	\$2,585
1957.....	337		1			1		337	337
1958.....	926		16	168		12		762	1,099
1959.....	895		33	339		21		568	1,667
1960.....	987		47	528		32	-27	501	2,167
1961.....	1,022		61	704		36	5	337	2,504
1962.....	1,021		68	1,011		64	11	2	2,507
1963.....	1,077		67	1,171		67	20	-113	2,394
1964.....	1,143		65	1,251		68	19	-130	2,264
1965.....	1,175		62	1,392		79	24	-257	2,007
1966.....	1,557		54	1,721	1	183	25	-321	1,686
1967.....	2,249	16	67	1,861	7	99	31	335	2,022
1968.....	2,699	16	85	2,088	15	112	20	564	2,585
Estimated future experience:									
1969.....	3,592	32	135	2,434	17	136	18	1,154	3,740
1970.....	3,748	16	194	2,624	20	145	13	1,156	4,896
1971.....	3,907	19	249	2,758	20	152	14	1,231	6,127
1972.....	4,057	21	312	2,893	22	160	15	1,300	7,427
1973.....	4,224	21	378	3,016	24	166	16	1,401	8,828

¹ Includes net profits on marketable investments and, for 1958-69, adjustment for interest on administrative-expense transfers between the disability insurance trust fund and the old-age and survivors insurance trust fund (see footnote 2 below).

² For years 1957-65, expenses of the Department of Health, Education, and Welfare under the disability insurance program were initially charged to the old-age and survivors insurance trust fund; reimbursements, including interest, were then made from the disability insurance trust fund in the following fiscal year. For 1966, expenses incurred under the disability insurance program were

initially charged to the old-age and survivors insurance trust fund; reimbursement, including interest, was made from the disability insurance trust fund in June 1966. Beginning in 1967, expenses incurred under the disability insurance program are charged directly to the trust fund on a current (preliminary) basis, with a final adjustment made in the following fiscal year.

Note: Reference should be made to the text which describes the underlying assumptions and limitations. Estimates were prepared in December 1968.

TABLE 17.—OPERATIONS OF THE DISABILITY INSURANCE TRUST FUND, CALENDAR YEARS 1957-73

(In millions)

Calendar year	Transactions during period								Fund at end of period
	Income			Disbursements					
	Contributions, less refunds	Reimbursements from general fund of Treasury for cost of noncontributory credits for military service	Interest on investments	Benefit payments	Payments for vocational rehabilitation services	Administrative expenses	Transfers to railroad retirement account	Net increase in funds	
Past experience:									
1957-67	\$13,384	\$32	\$583	\$11,135	\$14	\$714	\$107	\$2,029	\$2,029
1957	702		7	57		3		649	649
1958	966		25	249		12		729	1,379
1959	891		40	457		50	-22	447	1,825
1960	1,010		53	568		36	-5	464	2,289
1961	1,038		66	887		64	5	148	2,437
1962	1,046		68	1,105		66	11	-69	2,368
1963	1,099		66	1,210		68	20	-133	2,235
1964	1,154		64	1,309		79	19	-188	2,047
1965	1,188		59	1,573		90	24	-440	1,606
1966	2,006	16	58	1,781	3	137	25	133	1,739
1967	2,286	16	78	1,939	11	109	31	290	2,029
Estimated future experience:									
1968	3,315	32	106	2,296	16	127	20	994	3,023
1969	3,665	16	165	2,530	19	141	18	1,138	4,161
1970	3,819	19	222	2,693	20	149	13	1,185	5,346
1971	3,963	21	281	2,828	22	156	14	1,245	6,591
1972	4,117	21	345	2,954	23	163	15	1,328	7,919
1973	4,286	21	414	3,075	24	169	16	1,437	9,356

Note: In interpreting the above experience, reference should be made to the footnotes in table 16.

TABLE 18.—DISABILITY INSURANCE BENEFIT PAYMENTS AS A PERCENTAGE OF TAXABLE EARNINGS,¹ CALENDAR YEARS 1957-73

Calendar year	Benefit payments as a percentage of taxable earnings ²	Calendar year	Benefit payments as a percentage of taxable earnings ²
Past experience:		Estimated future experience:	
1957.....	0.03	1968.....	0.63
1958.....	.14	1969.....	.66
1959.....	.23	1970.....	.67
1960.....	.28	1971.....	.68
1961.....	.44	1972.....	.69
1962.....	.52	1973.....	.69
1963.....	.56		
1964.....	.57		
1965.....	.65		
1966.....	.59		
1967.....	.61		

¹ Percentage takes into account (1) lower contribution rate payable by the self-employed compared with combined employer-employee rate, (2) employee contributions subject to refund, and (3) for 1966 and later, that only the employee contribution is payable on tips taxable as wages.

² For 1965-67, percentages are preliminary and subject to revision when complete tabulation of taxable earnings is available. For 1966-73, percentages are based on sum of payments for benefits and for vocational rehabilitation services.

Reference has been made in earlier sections to the financial interchanges between the railroad retirement account and the two trust funds, under the provisions of the Railroad Retirement Act. The estimates shown in tables 12, 13, 16, and 17 reflect the effect of future financial interchanges.

Reference has also been made previously to the provisions of section 228 of the Social Security Act under which benefits are paid initially from the old-age and survivors insurance trust fund to certain non-insured persons aged 72 and over, with later reimbursement from the general fund of the Treasury for the costs of payments to those in this group who have less than 3 quarters of coverage. The estimates in tables 12-15 reflect the effect of these provisions.

The estimates in tables 12-18 reflect the effect of the provisions in section 222(d) of the Social Security Act authorizing expenditures from the old-age and survivors insurance and disability insurance trust funds for the cost of vocational rehabilitation services furnished to disabled beneficiaries.

Reference has been made in earlier sections to statutory provisions of the Social Security Act authorizing annual reimbursements from the general fund of the Treasury to the old-age and survivors insurance and disability insurance trust funds for costs of granting non-contributory credits for military service. The estimates shown in the various tables in this section reflect the effect of past and expected future reimbursements.

ACTUARIAL STATUS OF THE TRUST FUNDS

Old-age, survivors, and disability insurance benefit payments will increase for many years—not only in dollars but also as a percentage of taxable payroll. Long-range estimates are needed, therefore, to show how much the cost is likely to increase and to indicate whether the scheduled tax rates are adequate.

The cost of benefits to aged persons, which constitutes more than 80 percent of the total cost, will rise for several reasons. The U.S. population is, in the long run, expected to become relatively much older

on the average. A relatively older population will tend to result from the fact that the present aged population is made up of the survivors from past periods when death rates were much higher than they are now. Another such factor is that, after the turn of the century, the larger birth cohorts of the 1940's, 1950's, and 1960's will be attaining retirement age. Thus, in the future, relatively more persons, both in total and in each cohort, will attain age 65 and older ages.

The cost of the program is closely related to the ratio of the population aged 65 and over (potential beneficiaries) to the population aged 20-64 (potential contributors). On January 1, 1969, this ratio was 18.2 percent. In a stationary population that would result if the death rates of the U.S. Life Tables for 1959-61 were applied to a constant annual number of births the ratio would be 25.4 percent, but such a situation is not likely to occur within the next century. Ultimately this ratio may become even greater because decreases in mortality below present rates would, in a stationary population, have the effect of increasing the proportion at the oldest ages.

Another reason for the increasing cost is that the proportion of the aged population eligible for and receiving benefits will increase. Some of the present persons aged 65 and over were not in covered employment long enough to obtain benefits, or, in the case of widows, their husbands did not work long enough in covered employment to be insured. Although the system began in 1937, many jobs were not covered until 1951 or 1955. It is estimated that the proportion of the aged population eligible for some type of cash benefit under the system will increase from a level of about 90 percent on January 1, 1969 to between 94 and 95 percent in 1980 and between 96 and 98 percent by the end of the century.

Since the long-term future cost of the old-age, survivors, and disability insurance program will be affected by many factors that are difficult to determine, the assumptions used in the actuarial cost estimates may differ widely and yet be reasonable. The long-term cost estimates for the program (shown for 1980 and thereafter) are presented here on a range basis to indicate the plausible variation in future costs depending on the actual trends that develop for the various cost factors.

Both the low-cost and high-cost estimates are based on the assumption of a 4-percent unemployment rate, with average annual earnings remaining at about the level that prevailed in 1968. Thus, changes slightly above and slightly below this level of unemployment would tend to offset each other over the long-range future period considered. This assumption as to the unemployment rate is made only for purposes of these actuarial cost estimates and is not intended to be an official Government forecast of this factor. If the unemployment rate were assumed to be somewhat lower, there would be relatively little effect on the resulting cost estimates.

Each estimate provides data on taxable payroll and contributions and on beneficiaries and benefit payments for every future year. The data are presented here for selected future years. As will be discussed subsequently, the long-range cost estimates presented here are new estimates that have been prepared since the 1968 report of the board of trustees; the changes in assumptions and their effect on the cost estimates will also be described briefly.

It is considered likely, although by no means certain, that actual costs as a percentage of taxable payroll will lie between the low-cost and high-cost figures. Also, a single estimate of costs is needed as a guide in considering proposed legislation and developing tax schedules intended to make the system self-supporting. For these reasons, an intermediate-cost estimate is prepared, in which numbers of beneficiaries, amount of benefit payments, and taxable payrolls are taken halfway between the low-cost and high-cost figures. The intermediate percentage-of-payroll figures are obtained by dividing total benefit payments by taxable payroll, each on the intermediate basis, and are therefore not exactly equal to the average of low-cost and high-cost percentage-of-payroll figures.

Table 19 shows benefit-payment costs for selected years and the corresponding level-costs over the next 75 years, expressed as percentages of taxable payroll, under each of the three estimates. The level-cost of the program on this basis is the constant combined employer-employee tax rate that, together with a tax on the self-employed of about 75 percent of such combined rate (subject to a maximum self-employed tax rate of 7 percent), would exactly pay for future benefits and administrative expenses, after making allowance for the effect of the future interest earnings of the existing trust fund and for all other future interest earnings. All percentage-of-payroll figures are adjusted so they represent the tax rate that employees and employers combined, and the self-employed at three-quarters of the combined rate, would have to pay in any given year to meet exactly the disbursements in that year.

Tables 20 and 21 show, for each set of estimates, the contributions, benefit payments, administrative expenses, amount paid to or received from the railroad retirement system, and the balance in the trust funds for selected years.

TABLE 19.—ESTIMATED COSTS OF OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE BENEFIT PAYMENTS AS PERCENT OF PAYROLL,¹ 1968 LEVEL-EARNINGS ASSUMPTION, 1980-2040

[In percent]

Calendar year	Low-cost estimate	High-cost estimate	Intermediate-cost estimate ²
Old-age and survivors insurance benefits³			
1980.....	7.46	7.80	7.63
1985.....	8.01	8.43	8.22
1990.....	8.42	8.96	8.68
2000.....	8.03	8.52	8.46
2025.....	9.42	11.87	10.54
2040.....	9.25	12.45	10.64
Level-cost ⁴	7.85	8.92	8.34
Disability insurance benefits³			
1980.....	0.80	1.00	0.91
1985.....	.83	1.06	.95
1990.....	.83	1.08	.95
2000.....	.88	1.17	1.02
2025.....	.95	1.25	1.09
2040.....	.99	1.27	1.11
Level-cost ⁴85	1.12	.98

¹ Taking into account the lower contribution rate on self-employment income, on tips, and on multiple-employer "excess wages," as compared with the combined employer-employee rate.

² Based on the averages of the dollar contributions and dollar costs under the low-cost and high-cost estimates.

³ Includes payments for vocational rehabilitation services.

⁴ Level contribution rate, at an interest rate of 3.75 percent for high-cost, 4.25 percent for intermediate-cost, and 4.75 percent for low-cost, for benefits after 1968, taking into account interest on the trust fund on Dec. 31, 1968, future administrative expenses, the railroad retirement financial interchange provisions, and reimbursement for additional cost of noncontributory credit for military service.

TABLE 20.—ESTIMATED PROGRESS OF OLD-AGE AND SURVIVORS INSURANCE TRUST FUND, 1968 LEVEL-EARNINGS ASSUMPTION ¹

[In millions]

Calendar year	Contributions	Benefit payments	Administrative expenses ²	Financial interchange ³	Interest on fund	Fund at end of year
Actual data						
1957.....	\$6,825	\$7,347	\$162	—\$2	\$556	\$22,393
1958.....	7,566	8,327	194	124	552	21,864
1959.....	8,052	9,842	184	282	532	20,141
1960.....	10,866	10,677	203	318	516	20,324
1961.....	11,285	11,862	239	332	548	19,725
1962.....	12,059	13,356	256	361	526	18,337
1963.....	14,541	14,217	281	423	521	18,480
1964.....	15,689	14,914	296	403	569	19,125
1965.....	16,017	16,737	328	436	593	18,235
1966.....	20,658	18,267	256	444	644	20,570
1967.....	23,216	19,468	406	508	818	24,222
Low-cost estimate						
1980.....	\$40,230	\$33,076	\$544	\$491	\$5,663	\$131,611
1985.....	42,723	37,722	588	463	8,472	192,575
1990.....	45,487	42,206	631	405	11,480	258,518
1995.....	49,222	45,651	668	324	15,089	338,611
2000.....	53,602	47,483	696	229	20,023	448,897
High-cost estimate						
1980.....	\$39,353	\$33,844	\$618	\$521	\$3,716	\$108,014
1985.....	41,655	38,693	667	494	5,069	145,018
1990.....	44,117	43,587	718	425	6,203	175,666
1995.....	47,155	47,391	761	343	7,246	204,547
2000.....	50,710	49,884	797	259	8,539	241,108
Intermediate-cost estimate						
1980.....	\$39,792	\$33,460	\$581	\$506	\$4,630	\$119,573
1985.....	42,189	38,206	628	478	6,636	168,057
1990.....	44,802	42,898	674	415	8,587	215,345
1995.....	48,188	46,523	714	334	10,724	268,019
2000.....	52,156	48,682	746	245	13,546	338,400
2025.....	67,833	79,000	1,100	—5	38,784	953,127

¹ Interest rates of 3.75 percent for high-cost, 4.25 percent for intermediate-cost, and 4.75 percent for low-cost, were used in determining the level-cost, but in developing the progress of the trust fund, varying rates in the early years were used, which—when averaged over a long period of time—are equivalent to such fixed rates.

² These figures fluctuate in a nonsignificant manner from year to year, because of the method of reimbursement between this trust fund and the other 3 social security trust funds.

³ A positive figure indicates payment from the trust fund to the railroad retirement account; a negative figure indicates the reverse.

Note: Contributions include reimbursement for additional cost of noncontributory credit for military service and benefits include payments for vocational rehabilitation services. Projected data include the costs of special benefits to persons aged 72 or over and the reimbursements thereof.

TABLE 21.—ESTIMATED PROGRESS OF DISABILITY INSURANCE TRUST FUND, 1968 LEVEL-EARNINGS ASSUMPTION¹

[In millions]

Calendar year	Contributions	Benefit payments	Administrative expenses ²	Financial interchange ³	Interest on fund	Fund at end of year
Actual data						
1957.....	\$702	\$57	\$3	-----	\$7	\$649
1958.....	966	249	12	-----	25	1,379
1959.....	891	457	50	-\$22	40	1,825
1960.....	1,010	568	36	-5	53	2,289
1961.....	1,038	887	64	5	66	2,437
1962.....	1,046	1,105	66	11	68	2,368
1963.....	1,099	1,210	68	20	66	2,235
1964.....	1,154	1,309	79	19	64	2,047
1965.....	1,188	1,573	90	24	59	1,606
1966.....	2,022	1,784	137	25	58	1,739
1967.....	2,302	1,950	109	31	78	2,029
Low-cost estimate						
1980.....	\$4,240	\$3,559	\$141	\$17	\$727	\$16,671
1985.....	4,508	3,937	141	15	1,039	23,516
1990.....	4,802	4,196	138	7	1,423	32,037
1995.....	5,196	4,553	147	0	1,918	42,998
2000.....	5,657	5,195	165	-4	2,520	56,252
High-cost estimate						
1980.....	\$4,148	\$4,363	\$189	\$23	\$205	\$5,850
1985.....	4,396	4,889	201	19	128	3,674
1990.....	4,657	5,257	211	13	-3	42
1995.....	4,978	5,744	226	8	(⁴)	(⁴)
2000.....	5,353	6,583	257	4	(⁴)	(⁴)
Intermediate-cost estimate						
1980.....	\$4,194	\$3,961	\$165	\$20	\$437	\$11,127
1985.....	4,452	4,413	171	17	524	13,231
1990.....	4,730	4,726	174	10	606	15,257
1995.....	5,087	5,148	186	4	695	17,441
2000.....	5,505	5,889	211	0	756	18,836
2025.....	7,147	8,180	290	-8	365	9,113

¹ Interest rates of 3.75 percent for high-cost, 4.25 percent for intermediate-cost, and 4.75 percent for low-cost were used in determining the level-cost, but in developing the progress of the trust fund, varying rates in the early years were used, which—when averaged over a long period of time—are equivalent to such fixed rates.

² These figures fluctuate in a nonsignificant manner from year to year, because of the method of reimbursement between this trust fund and the old-age and survivors insurance trust fund.

³ A positive figure indicates payment from the trust fund to the railroad retirement account; a negative figure indicates the reverse.

⁴ Fund exhausted in 1991.

Note: Contributions include reimbursement for additional cost of noncontributory credit for military service. Benefits include payments for vocational rehabilitation services.

It should be emphasized that dollar figures projected for so many years into the future have only limited significance because of changes that are likely to occur in the general economy, as well as in the system itself. What is really the most significant are relative figures such as those in table 19, showing the benefit costs as a percentage of taxable payroll.

For old-age and survivors insurance, annual benefit payments as a percentage of payroll are less than the scheduled tax rates in the early future years, but they eventually rise above the ultimate combined employer-employee rate of 9.05 percent. The excess income in the early years in addition to the interest earned by the fund, will be enough to finance the excess outgo in later years. For disability insurance, annual benefit payments as a percentage of taxable payroll are lower than the level allocation of 0.95 percent until 1990 (and higher thereafter) ac-

ording to the intermediate-cost estimate; under the low-cost estimate, the benefit cost is below the allocation until 2005, while under the high-cost estimate the benefit cost is above the allocation for all years after 1977.

To measure the extent to which the financing arrangements of the system result in a surplus or deficiency, a level contribution rate equivalent to the actual increasing contribution rates has been computed, taking into account future interest. The level-equivalent rate of contributions minus the level-cost of benefit payments and administrative costs expressed as a percentage of taxable payroll (after making allowance for the interest-earning effect of the existing trust fund), gives the amount by which the contribution rate in all years would have to be changed to put the system in exact long-range balance according to the estimate. A negative figure would indicate that an increase in the tax rate is needed to make the system self-supporting, while a positive figure would indicate that the system is overfinanced.

The long-range balance of the system is shown by the following level-equivalent costs and contributions, expressed in percentages of taxable payroll, which are computed as of the beginning of calendar year 1969, at interest rates of 3.75 percent for high-cost, 4.25 percent for intermediate-cost, and 4.75 percent for low-cost:

(In percent of taxable payroll ¹)

Item	OASI	DI	Total
Low-cost estimate			
Contributions.....	8.89	0.95	9.84
Benefits ²	7.85	.85	8.70
Actuarial balance.....	1.04	.10	1.14
High-cost estimate			
Contributions.....	8.92	0.95	9.87
Benefits ²	8.92	1.12	10.04
Actuarial balance.....	0	-.17	-.17
Intermediate-cost estimate			
Contributions.....	8.90	0.95	9.85
Benefits ²	8.34	.98	9.32
Actuarial balance.....	.56	-.03	.53

¹ Based on adjusted payroll that reflects the lower contribution rate on self-employment income, tips, and multiple-employer "excess wages", as compared with the combined employer-employee rate.

² Including adjustments (1) for interest on the existing trust fund, (2) for administrative expenses, (3) for the railroad retirement financial interchange provisions, and (4) for reimbursement of military-wage-credits cost. Includes payments for vocational rehabilitation services.

The old-age, survivors, and disability insurance system as a whole is overfinanced by a substantial amount according to the new cost estimates (there is a positive balance of 0.53 percent of taxable payroll on the intermediate-cost basis). The old-age and survivors insurance portion of the system has a large positive balance of 0.56 percent of taxable payroll, while the disability insurance portion has a small negative actuarial balance, -0.03 percent of payroll.

If the intermediate-cost estimate had been based on a higher interest rate than 4.25 percent (which is somewhat above the current average being earned by the total investments of the trust funds, about 4.0

percent), but considerably below the prevailing market rate of interest on long-term Government obligations, which was about 5.6 percent in December 1968, the actuarial balance of the total program would have been higher. Thus, for example, the use of a 4½-percent interest rate would increase the actuarial balance of the program by about 0.04 percent of taxable payroll, and a 4¾-percent interest rate would increase it by 0.08 percent of taxable payroll. Similarly, using a 4.25-percent interest rate, a change in the assumed earnings level from that prevailing in 1968 to that prevailing in 1969 would increase the actuarial balance by 0.19 percent of taxable payroll. If the expected 1970 earnings level were assumed instead of the 1968 level, there would be an increase in the actuarial balance of 0.37 percent of taxable payroll.

If the experience exactly follows the assumptions, future computations would show a gradual increase in the actuarial balance (or lack of balance) under the intermediate-cost estimate for both the old-age and survivors insurance system and the disability insurance system. The reason for this is that interest accumulations increase any surplus in the system, but the failure to accumulate all interest income that would have been earned in an exactly balanced system increases any deficit. In the case of a surplus, the excess contributions actually earn interest, while a deficit grows because of the absence of the annual interest that would have been earned if the contributions required for balance had been paid.

Continuing study of the emerging experience under the program provides a basis for prompt changes in the tax rate or other changes that may be necessary to keep the system from growing excessively out of actuarial balance in either direction.

It is important to note that these estimates are made on the assumption that earnings will remain at about the level prevailing in 1968. If earnings levels rise, as they have in the past, the benefits and the taxable earnings base under the program will undoubtedly be modified. In fact, if all other assumed cost factors are closely followed by the experience, then increasing wage levels will automatically generate positive actuarial balances that can be used to increase benefit levels without changing the financing provisions. If such changes are made concurrently and proportionately with changes in general earnings levels, and if the experience follows all the other assumptions, the future year-by-year costs of the system as a percentage of taxable payroll would be the same as those shown. However, the existing trust fund accumulated in the past, and its interest earnings, will represent a smaller proportion of the future taxable payrolls than if earnings were not to increase in future years. As a result, since interest earnings of the trust fund will play a relatively smaller role in the financing of the system, the "net" level-cost—taking into account benefit payments, administrative expenses, and interest on the existing trust fund—would be somewhat higher. However, the level-cost might not rise this much, or might even decline, if benefit adjustments do not fully reflect rising earnings. Again, the effect of such events can be observed in ample time to make any needed changes in the contribution schedule or any other appropriate changes in the system.

This analysis includes the benefits and contributions in respect to all persons anticipated to be covered in the future under present statu-

tory provisions and not merely (a) the benefits to be paid to workers who have been covered by the system in the past and to their dependents and survivors, (b) the future taxes to be paid by, and with respect to, such workers and (c) the existing trust funds. An insurance company must set up reserves equal to all currently accrued liabilities, since it cannot compel individuals to become new policyholders and must be in a position at any time so that in the future it can pay all benefits that will become due with respect to its present and past policyholders, using only its present assets and the future premiums to be paid by present policyholders. In analyzing the actuarial conditions of a compulsory social insurance system that will continue indefinitely, the income and outgo with respect to new entrants should properly be included, thus obviating the need to set up reserves for all currently accrued liabilities.

A discussion of the assumptions under which these estimates have been made is presented in appendix I.

The long-range actuarial cost estimates which have been presented here were developed in late 1968, subsequent of course to the 1968 report of the Board of Trustees. These new estimates show a much more favorable actuarial balance than the previous ones—namely, for the entire old-age, survivors, and disability insurance system, according to the intermediate-cost estimate, a positive balance of 0.53 percent of taxable payroll as compared with the previous positive balance of 0.01 percent.

The increase in the positive actuarial balance according to the new cost estimates arises because of several revised assumptions. The breakdown of the increase of 0.52 percent of taxable payroll on a level-cost basis is as follows:

<i>Item</i>	<i>Effect (in percent of taxable payroll)</i>
Use of 1968 earnings assumption (instead of 1966)-----	+ 0.33
Use of 4¾ percent interest assumption (instead of 3¾ percent)-----	+ 0.11
Increased female labor force participation rates-----	+ 0.06
Other factors-----	+ 0.02
Total-----	+ 0.52

NOTE.—With regard to the changes in assumptions, it may be pointed out that the earnings assumption was updated from 1966 to 1968 in accordance with the customary actuarial practice for periodic revision in the cost estimates of using the earnings level of the year in which the revision is prepared. Also, the interest-rate assumptions were increased over those used previously, so as to recognize in a gradual manner the drastically higher interest rates of recent years; this procedure of partial, gradual recognition is followed so that the long-term interest-rate assumption will not fluctuate as widely as short-term interest rates do.

MEDIUM-RANGE COST ESTIMATES

The preceding sections have presented both short-range cost estimates (for the next 5 years) and long-range cost estimates (for many decades into the future) for the old-age, survivors, and disability insurance system. This section presents medium-range cost estimates covering a period of 15 to 20 years that take into account possible variations in economic factors, such as level of earnings and level of employment, as well as variations in demographic factors.

Tables 22 and 23 present two medium-range projections based on different assumptions. For both projections, it is assumed that economic activity will have normal expansion throughout the period, with employment increasing steadily at an average annual rate of 1¾ percent